(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 31 March 2005 (31.03.2005)

PCT

(10) International Publication Number WO 2005/028479 A3

(51) International Patent Classification⁷: C07D 473/16, A61K 31/52, A61P 31/18, C07D 473/18, 473/00, A61K 31/52

(21) International Application Number:

PCT/EP2004/052262

(22) International Filing Date:

21 September 2004 (21.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: PCT/EP03/50659

25 September 2003 (25.09.2003) EP

(71) Applicant (for all designated States except US): JANSSEN PHARMACEUTICA N.V. [BE/BE]; Turn-houtseweg 30, B-2340 Beerse (BE).

(71) Applicant (for US only): ARTS, Frank, Xavier, Jozef, Herwig (legal representative of the deceased inventor) [BE/BE]; Voshollei 36, B-2390 Brasschaat (BE).

(72) Inventor: JANSSEN, Paul, Adriaan, Jan (deceased).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEWI, Paulus, Joannes [BE/BE]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE). DE JONGE, Marc, René [NL/NL]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE). KOYMANS, Lucien, Maria, Henricus [NL/BE]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE). DAEYAERT, Frederik, Frans, Desiré [BE/BE]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE). HEERES, Jan [NL/BE]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE).

VINKERS, Hendrik, Maarten [NL/BE]; c/o Janssen Pharmaceutica N.V., Turnhoutseweg 30, B-2340 Beerse (BE). LEENDERS, Ruben, Gerardus, George [NL/NL]; c/o Mercachem, Toernooiveld 100, NL-6503 CB Nijmegen (NL). VANDENPUT, Dirk, Alfons, Leo [NL/NL]; c/o Mercachem, Toernooiveld 100, NL-6503 CB Nijmegen (NL).

(74) Common Representative: JANSSEN PHARMACEUTICA N.V.; Turnhoutseweg 30, B-2340 Beerse (BE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

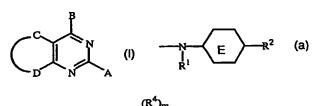
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,

[Continued on next page]

(54) Title: HIV REPLICATION INHIBITING PURINE DERIVATIVES



or $-x_1$ $\xrightarrow{(R^4)_m}$ (b)

(57) Abstract: The present invention relates to the use of a compound of formula (I) for the manufacture of a medicament for the prevention or the treatment of HIV infection wherein the compound of formula (I) is a compound of formula (I) a N-oxide, a pharmaceutically acceptable addition salt, a quaternary amine or a stereochemically isomeric form thereof, wherein A and B each represents a radical of formula (a) or (b) and wherein -C-D- represents a bivalent radical of formula -N=CH-NR¹⁷- (c-1); or -NR¹⁷-CH=N- (c-2); provided that when A represents a radical of formula (a) then B represents a radical of formula (b) and when A represents a radical of formula (b) then B represents a radical of formula (a).

WO 2005/028479 A3



TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

 as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations — of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- (88) Date of publication of the international search report: 16 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.